Module Descriptor

Title	Web Application Development		
Session	2025/26	**Status**	Published
Code	COMP11121	**SCQF Level**	11
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	Graeme A. McRobbie		

Summary of Module

This module aims to equip you with the practical skills to be able to design and develop dynamic web applications for small businesses and organisations.

The module begins by introducing all the core technologies it covers, and then walks you through the installation of a web development server. You will then be ready to work through the many examples and exercises given in this module.

You will gain a thorough grounding in JavaScript, from simple functions and event handling to accessing the Document Object Model, in-browser validation, and error handling.

You will also get a comprehensive primer on using the popular jQuery and React libraries.

With an understanding of these core technologies, you will learn how to make behind-the-scenes AJAX calls that turn websites into highly dynamic environments.

You will be learning all about using CSS to style and lay out your web pages.

You will then move on to the interactive features built into HTML5, including geolocation, audio, video, and the canvas.

Along the way, you will find plenty of advice on good programming practices and tips that will help you find and solve hard-to-detect programming errors.

This module will work to develop a number of the key 'I am UWS' Graduate Attributes to make those who complete this module.

Universal: critical thinker; ethically-minded; and research-minded Work Ready: problem-solver; effective communicator; and ambitious Successful: autonomous; resilient; and driven

Module Delivery Method	On-Campus[1] ☐	Hybrid[2] ☒	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☐ Lanarkshire ☒ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☒	Term 2	☒	Term 3	☒
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	Demonstrate a critical understanding of the technologies and frameworks used in contemporary web development
L2	Make informed judgments in selecting a range of technologies and frameworks for a web development project
L3	Apply knowledge, skill and understanding in planning and executing a web development project
L4	N/A
L5	N/A

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 11** Demonstrate a critical understanding of the capabilities and limitations HTML5, CSS3 and JavaScript
Practice: Applied Knowledge and Understanding	**SCQF 11** Use the principal HTML5, CSS3 and JavaScript skills in unpredictable professional level contexts
Generic Cognitive skills	**SCQF 11** Develop original and creative solutions to problems

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

Communication, ICT and Numeracy Skills	**SCQF 11** Use and adjust features of a range of software tools and ICT applications to support the development of a web-based application
Autonomy, Accountability and Working with Others	**SCQF 11** Take responsibility for own work

Prerequisites	**Module Code**	**Module Title**
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching

In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.

The module will be delivered through a combination of lectures, which will develop the theoretical underpinning for the module content, and lab exercises which will enable you to develop the appropriate practical and analytical skills. All module materials will be published on the module's VLE.

Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	12
Laboratory / Practical Demonstration / Workshop	24
Asynchronous Class Activity	12
Independent Study	152
Please select	
Please select	
TOTAL	200

Indicative Resources

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Beginning JavaScript: The Ultimate Guide to Modern JavaScript Development Russ Ferguson*

Pro JavaScript Techniques

John Resig, Russ Ferguson & John Paxton*

CSS3 Quick Syntax Reference: A Pocket Guide to the Cascading Style Sheets Languages Mikael Olsson*

Beginning CSS3: Expert's Voice in Web Development David Powers*

Pro HTML5 with CSS, JavaScript, and Multimedia: Complete Website Development and Best Practices Mark J. Collins*

HTML5 and JavaScript Projects: Build on your Basic Knowledge of HTML5 and JavaScript to Create Substantial HTML5 Applications

Jeanine Meyer*

Beginning jQuery: From the Basics of jQuery to Writing your Own Plug-ins Jack Franklin & Russ Ferguson*

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(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements

In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

For the purposes of this module, academic engagement equates to the following:

The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies.

Equality and Diversity

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.

Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations.

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Computing**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Business & Applied Computing
Moderator	TBC
External Examiner	TBC
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	1.01

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
A class test (practical) under strict examination conditions. The class test (practical) is intended to assess the student's understanding of the principles underpinning the technologies and frameworks studied in the module. The class test (practical) is worth 40% of the overall mark.
Assessment 2
A portfolio of practical work demonstrating the practical application of web development technologies and frameworks in producing a web-based solution to a problem. The portfolio of practical work is worth 60% of the overall mark
Assessment 3
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Class Test (Practical)	☒	☐	☐	☐	☐	40	2

Component 2

Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
Portfolio of practical work	☐	☒	☒	☐	☐	60	0

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	2 hours

Change Control

What	When	Who
Attendance and Engagement Procedure and Equality and Diversity	21/1/2025	F.Valentine